

Tasmanian Government
2012 Submission to Nation Building 2 Program

Birralee Main Road Upgrades



September 2012

Cover page - Information required for DOIT assessment

<p>Priority assigned by jurisdiction for NB2 funding consideration</p>	<p>Priority eight under Moving Freight</p>
<p>Details of full scope of project, including objectives, service requirements, project status and project phase(s) seeking funding.</p> <p>Note: It is expected that this will be largely addressed through the main IA submission. However, the Department requires cost estimates to be provided using the Best Practice Cost Estimation Standard and at both P50 and P90. Also to use both 4% and 7% for BCRs.</p>	<p>Information on project objectives, strategic context and options analysis is discussed in the Stage 1-6 template.</p> <p>Information on the technical and delivery aspects of the project, including benefit cost analysis, project risks and delivery program is discussed in the Stage 7 template.</p> <p>BCRs for Birralelee Main Road upgrades are:</p> <ul style="list-style-type: none"> • Discount Rate (7%) and P50: 0.87. • Discount Rate (7%) and P90: 0.80. • Discount Rate (4%) and P50: 1.39. • Discount Rate (4%) and P90: 1.28.
<p>Alignment with objectives of NB2</p> <p>Note: This should include how a project aligns with the overarching objective of NB2, as well as how it aligns with the objective of each relevant NB2 subprogram.</p>	<p>The Birralelee Main Road Upgrades project is submitted under the Moving Freight theme (Local Freight sub-program) of Nation Building 2.</p> <p>The project focuses on improvements to Birralelee Main Road to bring the road to a high productivity vehicle-compliant standard. The Road is a key section in the broader Frankford-Birralelee-Batman Freight Corridor, improvements to which will enhance freight connectivity and safety between the north west and north east regions.</p> <p>Further details are contained under Goal Definition (Stage1-6 template).</p>
<p>Alignment with broader Commonwealth and state/territory policies and plans</p> <p>Note: Specific plans/policies to be addressed (at a minimum) include the Commonwealth's Infrastructure Investment Framework; the National Urban Policy; the National Ports and Land Freight Strategies; and the Australian Government commitment on the incorporation of ITS for major urban roads (as appropriate).</p>	<p>The project aligns with a number of Infrastructure Australia's strategic priorities, including:</p> <ul style="list-style-type: none"> • Expand Australia's productive capacity • Increase Australia's productivity • Build on Australia's global competitive advantages • Reduce greenhouse gas emissions • Improve social equity, and quality of life, in our cities and our regions <p>The project aligns with the National Land Freight Network Strategy's strategic initiative of freight infrastructure improvement and access through road upgrades to bring the</p>

	<p>road to HPV compliant standard.</p> <p>The project aligns with the National Ports Strategy strategic priority of improving landside efficiency by enhancing freight connectivity between the north west and north east regions, including the movement of freight to the three northern ports.</p> <p>Further details are contained under Goal Definition (Stage1-6 template).</p>
<p>Overall financial exposure including identification of other partner funding</p> <p>Note: It is expected that this will be addressed in the main IA submission.</p>	<p>Full details of cost estimates are outlined in the Stage 7 template.</p>
<p>Identification of key strategic risks to the project</p> <p>Note: It is expected that this will be addressed in the main IA submission</p>	<p>A Risk Management Register has been developed for the project. Risks are detailed in the submission under Costs, Risks and Funding (Stage 7 template).</p>
<p>Quantification of the expected benefits from the proposal</p> <p>Note: It is expected that this will be addressed in the main IA submission.</p>	<p>Project benefits are outlined in the Stage 7 template.</p>
<p>Information regarding the extent to which the potential for private sector involvement or investment has been evaluated</p> <p>Note: It is expected that this will be addressed in the main IA submission.</p>	<p>The need for Government funding is discussed in the Stage 7 template.</p>
<p>Likely impacts from the project proposal on citizens and the market</p> <p>Note: Detail is needed on how each proposal will impact citizens and the market (as two distinct groups) – positively or negatively, and the extent of the impact</p>	<p>Further details on the impacts are outlined in Problem Identification, Assessment and Analysis (Stage 1-6 template).</p>
<p>Identification of key stakeholders in the project and the complexity of stakeholder relationships</p>	<p>Further details on key stakeholders and relationships are discussed in the Stage 7 template.</p>
<p>Extent of multijurisdictional and/or private sector involvement in the proposal</p>	<p>No other jurisdictions or private sector entities are involved in developing this proposal.</p>
<p>Details of the level of innovation and information technology involved in the</p>	<p>An ITS solution is not considered to be applicable to the issues this project</p>

<p>proposal, including in relation to information technology requirements to successfully manage/implement the proposal</p> <p>Note: Detail is to include identification of any new/untried methodologies or technologies to be used in the project, as well as IT requirements for the proponent agency to successfully manage or implement the proposal.</p>	<p>addresses.</p>
<p>Details of the proposed procurement methods for the proposal</p> <p>Note: It is expected that this will be addressed in the main IA submission.</p>	<p>Procurement methods for the proposal are discussed in the Stage 7 template.</p>
<p>Level of complexity in construction, and any known issues in relation to the construction of the project, including environmental and heritage considerations</p> <p>Note: It is expected that this will be largely addressed through the main IA submission. However, the Department requires sufficient detail to fulfil its probity and accountability requirements, so any additional information not explicitly addressed in the main IA submission should be provided here.</p>	<p>Further details on construction and related issues are discussed in the Stage 7 template.</p>
<p>Any known issues in relation to contractual or service delivery obligations stemming from the proposal</p> <p>Note: This is to include any issues that are not currently present but could reasonably be foreseen.</p>	<p>There are no foreseen contractual or service delivery issues.</p>
<p>Details of the proposed governance arrangements for the proposal</p> <p>Note: This should be largely addressed in the main IA submission. However, the Department requires an explicit statement about the experience of the management team in delivering similar proposals and whether there are any expected knowledge gaps or training needs to successfully implement the proposal.</p>	<p>The governance model for this project is outlined in the Stage 7 template.</p>
<p>Details of the proposed delivery timetables and whether there are any</p>	<p>The delivery timetable is outlined in the Stage</p>

<p>known challenges to achieving those timeframes</p> <p>Note: It is expected that this will be addressed in the main IA submission.</p>	<p>7 template.</p>
<p>Details of any significant interdependencies for the project</p> <p>Note: It is expected that this will be addressed in the main IA submission.</p>	<p>The key interdependencies for the project are outlined in the Stage 7 template.</p>

Proposal Summary

Initiative Name:	Birralee Main Road Upgrades
Location (State/Region(or City)/ Locality):	Northern Tasmania
Name of Proponent Entity:	Tasmanian Department of Infrastructure, Energy and Resources
Contact (Name, Position, phone/e-mail):	David Spence, General Manager Infrastructure Strategy Department of Infrastructure, Energy and Resources Tel: (03) 6233 2089 Email: david.spence@dier.tas.gov.au
Executive summary	<p>The Frankford-Birralee-Batman Freight Corridor is a key linkage in Tasmania's freight network. It is particularly important for freight movement between the north-east (including Bell Bay port) and north-west (including the Burnie and Devonport ports).</p> <p>Recent changes in shipping arrangements at Bell Bay have increased freight movements on the corridor, with greater volumes of Higher Productivity Vehicles (HPVs).</p> <p>The corridor includes four major roads (Batman Highway, West Tamar Highway, Frankford Main Road, and Birralee Main Road) and is the most direct route between Tasmania's north-east and north-west. The corridor alleviates the need for HPVs to travel via the longer route through Launceston and avoids movement through urban and residential areas.</p> <p>Recent analysis of Tasmania's broader HPV network found that the Batman Highway, Frankford Main Road and Birralee Main Road do not meet the Tasmanian road geometry guidelines for HPVs. Further analysis of the Frankford-Birralee-Batman Freight Corridor found that asset condition along the Batman Highway and Frankford Main Road were fit for current purpose, but the Birralee Main Road will require significant asset rehabilitation in the short-term.</p> <p>The Tasmanian Government has identified upgrading the Birralee Main Road as the key priority for the Frankford-Birralee-Batman Freight Corridor. The objective of the Birralee Road Upgrades is to deliver an efficient, safe and technically compliant road corridor to meet current and future HPV needs on a key inter-regional freight corridor.</p>
Is this a new submission?	Yes
Estimated cost of problems?	The strategic framework and transport system problems to which this project responds are outlined in the Overview document and within this submission. Detailed information on project costs and benefits, to the extent that they can be quantified, is contained in the Stage 7 template.
Estimated Capital Cost of Initiative by Proponent (\$M, nominal, undiscounted):	\$48M
Commonwealth contribution sought by Proponent (\$M, nominal, undiscounted):	\$48M

Other funding (source/amount/cash flow) (\$M, nominal, undiscounted):	<p>Cost reflective pricing for heavy vehicle access to the road network and road funding reform is being considered as part of the national Heavy Vehicle and Investment Reform agenda, and the Tasmanian government will continue to actively participate in this reform process. Tasmania has many attributes for a pilot study of approaches developed through national processes. It is considered that a national approach to funding and financing transport infrastructure, supported by all levels of government, is critical to effectively address long term transport infrastructure needs. In this context, the recent Infrastructure Australia's Finance Working Group's report "Infrastructure Finance and Funding Reform" is an important lead for national discussion. Tasmania is not in a position currently to adopt a unilateral approach. Further work is required on project financing and the issue of cost reflective pricing in small regional economies.</p>
BCR by Proponent excluding Wider Economic Benefits	0.80
Estimated program	Project planning and development from 2014-16; construction 2017-19.

Goal Definition

The objective of the Birralee Main Road Upgrades is to deliver an efficient, safe and technically compliant road corridor to meet current and future HPV needs on a key inter-regional freight corridor.

Birralee Main Road is part of the Frankford-Birralee-Batman Freight Corridor, a key inter-regional freight link in northern Tasmania. The Corridor is 53km long and includes the Batman Highway (11 km), West Tamar Highway (9 km), Frankford Main Road (14 km) and Birralee Main Road (19 km).

The Corridor connects Tasmania's north-east and north-west regions, the economies of which are highly reliant on agriculture, manufacturing and forestry. Much of Tasmania's agricultural manufacturing, including milk and vegetable processors is located in north-west Tasmania. Tasmania's key export ports, Devonport and Burnie, are also located in the north-west.

The north-east contains one of Tasmania's key manufacturing areas adjacent to Bell Bay port, which includes major timber processors and metal manufacturers. The north-east region is one of Tasmania's major forestry regions, and a key agricultural production region, including for milk and vegetables.

The nature and range of industries located in the north-east and north-west, and significant quantities of freight generated, results in a relatively large demand for freight movement between the two regions, making the provision of efficient inter-regional freight linkages critical.

Positive contribution to Infrastructure Australia and Nation Building 2 strategic priorities

The project aligns with number of Infrastructure Australia's strategic priorities, including:

Expand Australia's productive capacity

- The Corridor improves freight efficiency for industry, by providing a shorter and more direct route between Bell Bay and Tasmania's north west and north east production areas.
- Current road geometry along much of the corridor does not meet Tasmania's guidelines for High Productivity Vehicles.

Increase Australia's productivity

- Existing infrastructure constraints affect the ability of the Frankford-Birralee-Batman Freight Corridor to cater for the future freight task.
- The overall freight task along this corridor is projected to increase significantly, in line with growth in the major industry sectors in the north-east and north-west.
- Improving the infrastructure standard along the Frankford-Birralee-Batman Freight Corridor would improve the efficiency and productivity of freight movement between north-east and north-west Tasmania, and improve safety for all road users.

Build on Australia's global competitive advantages

- The Frankford-Birralee-Batman Freight Corridor is a key link for the movement of agriculture, manufacturing and forestry freight. These sectors contribute significant value to the Tasmanian and broader national economy.
- Without investment in this corridor, deterioration in infrastructure condition may result in freight vehicles travelling longer distances or being by smaller, less productive vehicles. This would reduce transport efficiency and competitiveness for industries using this corridor.

Reduce greenhouse emissions

- Freight vehicles using the Frankford-Birralee-Batman Freight Corridor generally travel at a more consistent travel speed, by avoiding congested routes, and travel a shorter distance between origins and destinations.
- Current regulations for the Corridor allow the use of full High Productivity Vehicle combinations (26m B-Doubles), and Higher Mass Vehicles.
- The combination of shorter trip distances, consistent travel speeds and higher load factors per vehicle, help to reduce greenhouse gas emissions.

Improve social equity, and quality of life, in our cities and our regions

- The Frankford-Birralee-Batman Freight Corridor carries a significant volume of heavy vehicles, which would otherwise have to use routes through Launceston, Tasmania's second largest urban centre.
- Similarly, this Corridor has an important role in connecting regional towns, making safety a key issue along this Corridor.

The project is submitted under the *Moving Freight* theme of Nation Building 2, and furthers the objectives of this program area:

Moving Freight

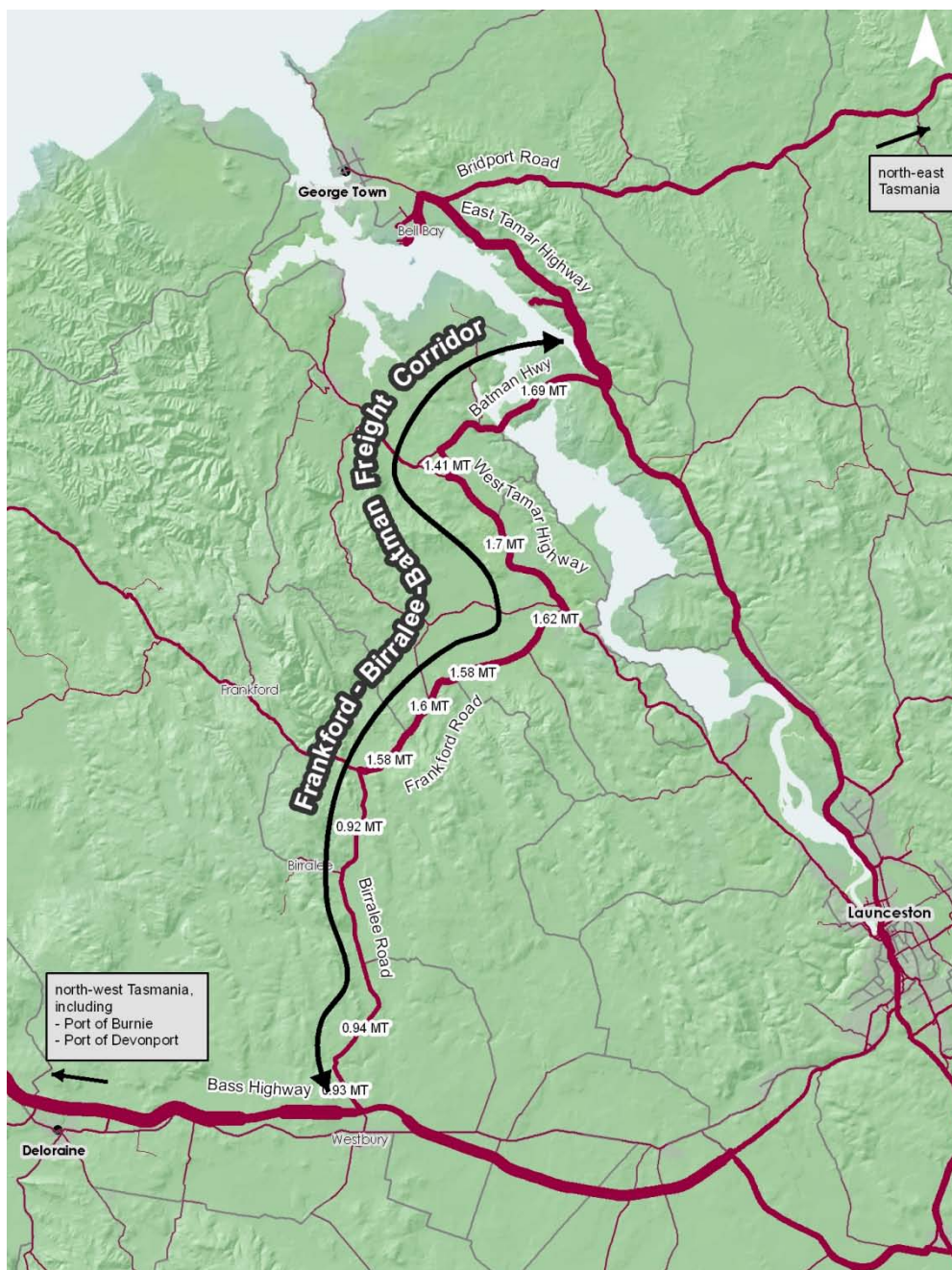
- The project focuses on improvements to Birralee Main Road to bring the road to a high productivity vehicle-compliant standard. The Road is a key section in the broader Frankford-Birralee-Batman Freight Corridor, improvements to which will enhance freight connectivity and safety between the north west and north east regions.

Problem identification, assessment and analysis

Problem identification

According to the latest Tasmanian Freight Survey (2008-09), the Frankford-Birralee-Batman Freight Corridor carries significant freight tonnages, with some parts of the corridor carrying up to 1.7 million tonnes (as shown on the map below). This includes:

- Batman Highway – 1.69 million tonnes
- West Tamar Highway - 1.70 million tonnes
- Frankford Road – 1.58 million tonnes
- Birralee Road – 0.94 million tonnes



High Productivity Vehicles (HPVs) are currently permitted to use the full length of the Frankford-Birralee-Batman Freight Corridor, and carry around 30% of freight along the corridor. However, the proportion of freight carried on HPVs on the Birralee Main Road section is much higher, at around 50%.

Use of full HPV combinations provides industry with a significant productivity increase. A full HPV combination (with Higher Mass) can have a gross mass of up to 68 tonnes, where as general access vehicles are restricted to 45.5 tonnes.

Due to the improved freight productivity, access for HPVs along this corridor is very important to industries in both the north-east and north-west, as they are generally used for longer distance movement of freight. Minimising freight costs is especially important for agriculture, manufacturing and forestry (the main industry users of the corridor), as these sectors operate in an increasingly competitive global market. Any advantage in production costs, including freight costs, is important to these industry sectors.

This corridor is the most direct route for High Productivity Vehicles (HPV) travelling between the north-west and the north-east. Use of the corridor reduces heavy vehicle traffic through the urban and central areas of Launceston.

A recent review found that the majority of the Frankford-Birralee-Batman Freight Corridor does not meet the Tasmanian guidelines for road geometry on HPV routes. More specifically, the Batman Highway, Frankford Main Road and Birralee Main Road do not have sufficient lane and shoulder widths to meet the guidelines.

Without investment in road infrastructure on this corridor, there is the potential for higher transport costs for industry in the future, through higher trip numbers or using longer routes that permit HPV use, to move freight.

Problem analysis and assessment

The Frankford-Birralee-Batman Freight Corridor carries a significant freight task, and is a key corridor for the movement of freight between north-east and north-west Tasmania. Since the latest Tasmanian Freight Survey in 2008-09, there have been a number of changes in the freight task along this corridor, mostly related to changes in shipping arrangements at Bell Bay Port.

With the cessation of Tasmania's direct international shipping service and the lack of a regular interstate container service at Bell Bay, there has been an increase in containerised freight movements between Bell Bay and the ports in the north-west.

Similarly, there has been an increase in agricultural freight movements along the Corridor in recent times, due to a shift in agricultural processing, with produce from the north-east now being moved to processors in the north-west.

Projections indicate that freight volumes on Birralee Main Road will increase significantly, reaching nearly 2.5 million tonnes by 2030. Much of this task is likely to be driven by changes in forestry freight movements, mostly related to plantation timber, along with significant growth in agricultural commodities.

A recent analysis of road asset condition along the corridor indicated that Frankford Main Road and the Batman Highway are in relatively good condition, and do not require significant investment to maintain road asset condition in the short term. As such, the Tasmanian

Government will continue to manage HPV use on these sections according to its High Productivity Vehicle Network Strategy.

Birralee Main Road has a poor asset condition. The road asset has evolved from a gravel surface to a sealed surface, but has had relatively little works on the road formation over its life. Earlier in its life, the asset was mainly used to access the farms and forests in the Birralee area. However, with broader changes in regional economies, and increased freight movements between different parts of the state, the Birralee Main Road has evolved into a key inter-regional freight connection in Tasmania's overall freight network.

With the increased heavy traffic using this asset, there has been significant deterioration in asset condition, and Birralee Main Road will require significant rehabilitation works in the near future. Given that asset rehabilitation is a relatively major investment in the road asset, it is sensible that the road is upgraded to an appropriate geometric standard at the same time.

Option Generation and Assessment

The above analysis points to a significant increase in freight along a corridor that has a number of deficiencies for more productive freight vehicles. Three sections of the corridor (the Batman Highway, Frankford Main Road and Birralee Main Road) have road geometries that do not meet the Tasmanian guidelines for High Productivity Vehicles.

This indicates that much of the corridor is likely to require investment in the future, to bring road infrastructure to an appropriate standard. The level of investment required to bring the entire route to this standard is significant, and the Tasmanian Government has prioritised different sections of the corridor, based on current asset condition.

Describe options

Three options were considered:

1. Do nothing
2. Pavement rehabilitation only
3. Upgrade road geometry to meet Tasmanian HPV guidelines, along with pavement rehabilitation

The first option (do nothing) would likely have significant impacts on the freight transport costs along the corridor, through freight vehicles choosing alternative routes, or using smaller, less productive vehicles. This would have significant impact on freight movements through Launceston, as well as increasing freight costs for industry. The additional distance for HPVs would likely be around 25 km per trip, adding significant additional costs per trip.

The second option (pavement rehabilitation only) would maintain freight efficiency in the short-term, but the road geometry would still be below the Tasmanian guidelines for HPVs. As such, there is a major risk that the current access arrangements for High Productivity Vehicles along the road may need to be changed in the future, which would increase freight transport costs for industry. Such a change would likely increase freight movement through Launceston as well.

The third option (upgrade to Tasmanian HPV guidelines) would ensure that freight efficiency for industry is maintained in the long term, and provide safer road geometry for all road

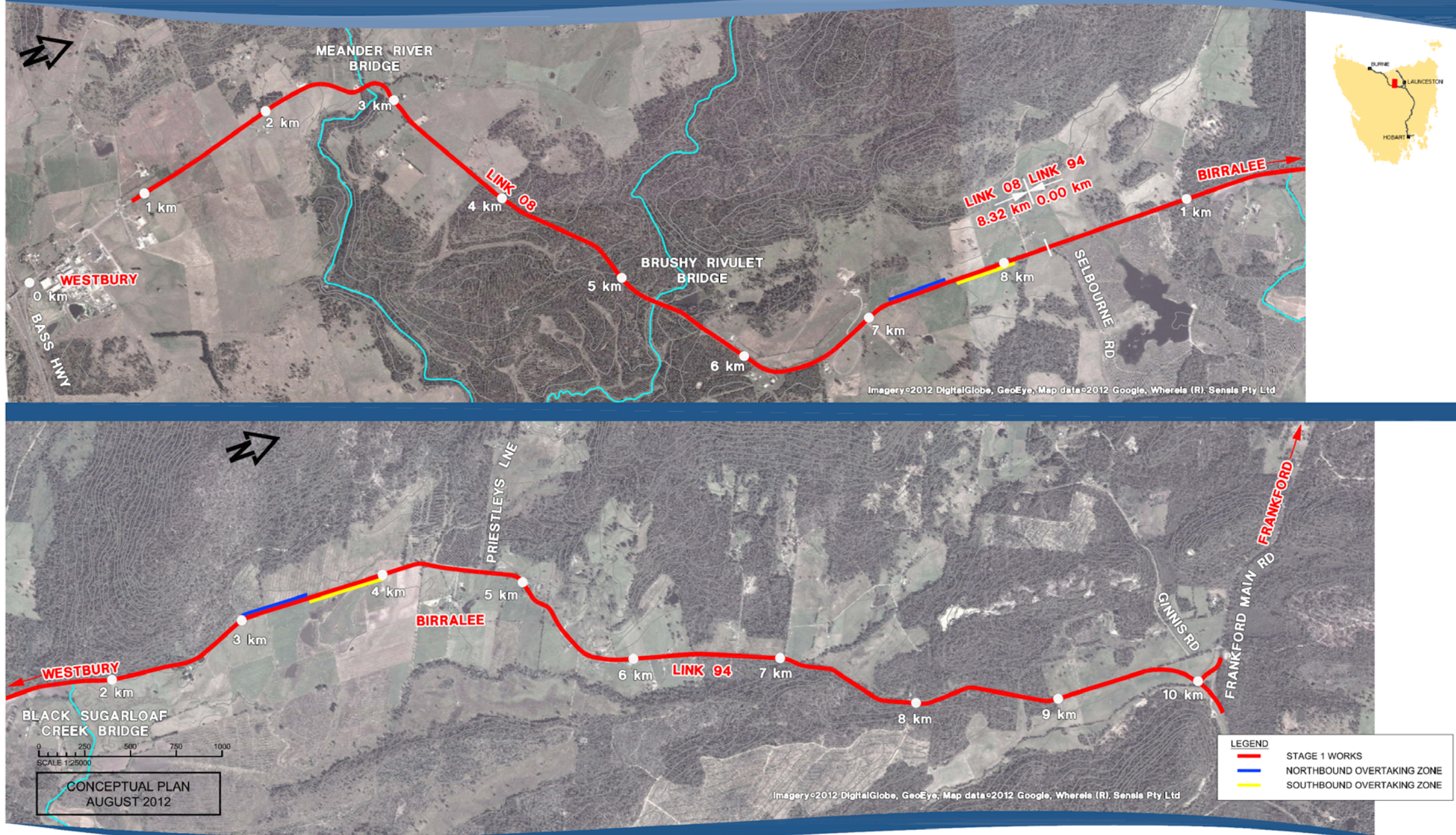
users. Additionally, the upgrades would maintain travel speed along the corridor at 100km/h, as the road geometry would meet the Tasmanian Government's prescribed guidelines for higher speed non-urban roads.

The preferred option

The Tasmanian Government's preferred option is to upgrade the Birralelee Main Road to meet Tasmania's High Productivity Vehicle guidelines. Upgrading this road to meet these guidelines is a cost-effective option, as they outline a road geometry suited to the different road conditions experienced in Tasmania. These differences are mainly due to the relatively hilly topography in Tasmania, as compared to the mainland states. As such, these upgrades represent a cost-effective way of ensuring Tasmania's road network can safely cater for HPVs and other freight vehicles, while maintaining freight efficiency for industry.

Appendix 1 – Map

**BIRRALEE MAIN ROAD
ROAD IMPROVEMENTS**



Department of Infrastructure, Energy and Resources

